prospectively follow-up and regularly performed resting echocardiography.

Results.— There was a significant increase in TTG from rest to exercise (21.5 ± 7.7 vs. 37.5 ± 15.2, $P < 0.001$). There were two patients with baseline resting PH (6%) and 15 patients with EIPH (45%). Of note, all patients with resting PH have developed EIPH. Mean follow-up was 25 ± 13 months (from 1 to 52) and six patients have experienced resting PH during this period, resulting in a mean time interval between baseline echocardiography and occurrence of resting PH of 8 ± 7 months (from 1 to 18). Of interest, all patients who developed resting PH during the follow-up have baseline EIPH (60%). In contrast, none of patients without baseline EIPH developed resting PH during the follow-up (0%). Although patients who developed resting PH had significant higher baseline resting TTG (26.6 ± 4.0 vs. 17.8 ± 5.7, $P = 0.03$), the difference in baseline exercise TTG was markedly higher (53.7 ± 14.0 vs. 31.4 ± 11.9, $P = 0.001$). Using logistic regression, after adjustment for age, baseline EIPH was independently associated with the occurrence of resting PH during the follow-up ($P = 0.0014$).

Conclusion.— EIPH may be frequent in SSc patients and could be a predictive factor of rapid and early onset of resting PH. Exercise stress echocardiography may be useful to identify subset of patients at high risk to developed resting PH and thus, could benefit from more aggressive therapeutic strategy. Nevertheless, further data in larger cohort are needed to confirm our results.

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Non-invasive detection of tako-tsubo cardiomyopathy versus acute anterior myocardial infarction by transthoracic doppler echocardiography

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Typical tako-tsubo cardiomyopathy (TTC) mimics acute anterior myocardial infarction (AMI) and the differential diagnosis is challenging before coronary angiography (CA) is performed: it demonstrates reduced or absent antegrade flow in the left anterior descending artery (LAD) in AMI whereas there is no such flow limiting in TTC. At the acute phase, we tested the usefulness of non-invasive coronary flow velocity (CFV) visualization by transthoracic Doppler echocardiography (TDE) to distinguish between these two diseases. For this purpose, we prospectively enrolled 28 consecutive patients (pts) with TTC (75 ± 10 years, 93% females), which were compared to 28 consecutive pts with AMI treated successfully by primary angioplasty (66 ± 12 years, 79% females). All pts underwent assessment of CFV in the distal part of the LAD just before CA, using color and pulsed wave TDE. In addition, the symmetric involvement of wall motion abnormalities (WMA) based on the extent of the disease far beyond one coronary territory in TTC was searched by TDE.

Results.— The distal LAD CVF was visible in 38/56 cases (68%) in the whole population, in all cases with TTC (100%) and in 10 cases with AMI (36%). The sensitivity (Se) and specificity (Sp) of the LAD CFV visualization for the diagnosis of TTC were 100% and 64% respectively with a diagnostic accuracy of 82%. By comparison, the pattern of WMA yielded a Se of 75%, Sp of 86%, and a diagnostic accuracy of 80%, this pattern being inconclusive in 11 cases. When CFV and pattern of WMA were combined together the Se and Sp were 75% and 96% respectively, with a diagnostic accuracy of 86% to detect TTC. The assessment of right ventricular WMA and left ventricular obstruction did not improve the diagnostic value of the combination of the above tools.

Conclusion.— Non-invasive evaluation of CFV in the distal LAD could be helpful to differentiate TTC from AMI, and its combination with the pattern of WMA improved slightly its diagnostic accuracy.

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